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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re: Mathis Confirmation No.: Not Assigned
Appl. No.: Not Assigned Art Unit: Not Assigned
Filed: March 11, 2004 Examiner: Not Assigned
For: NOVEL BT TOXIN RECEPTORS AND METHODS OF USE

Mail Stop Patent Application
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450


INFORMATION DISCLOSURE STATEMENT
CITATION UNDER 37 C.F.R. § 1.97

Sir:

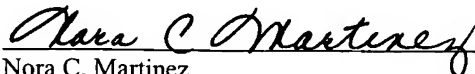
Attached is a list of documents on form PTO-1449 together with a copy of each identified document.

It is requested that the Examiner consider these documents and officially make them of record in accordance with the provisions of 37 C.F.R. § 1.97 and Section 609 of the MPEP. By submitting the listed documents, Applicant in no way makes any admission as to the prior art status of the listed documents, but is instead submitting the listed documents for the sake of full disclosure.

Respectfully submitted,



Kathryn L. Coulter
Registration No. 45,889

CUSTOMER NUMBER 29122 Alston & Bird LLP Bank of America Plaza 101 South Tryon Street, Suite 4000 Charlotte, NC 28280-4000 Tel Raleigh Office (919) 862-2200 Fax Raleigh Office (919) 862-2260	<u>CERTIFICATE OF EXPRESS MAILING</u> "Express Mail" mailing label number EV184328643US Date of Deposit March 11, 2004 I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450  Nora C. Martinez
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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet	2	of	3	Attorney Docket Number	035718/274644(5718-201)
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Complete if Known

Application Number	Not Assigned
Filing Date	March 11, 2004
First Named Inventor	Mathis
Group Art Unit	Not Assigned
Examiner Name	Not Assigned

11	FRANKLIN, S.W., et al., "Southern analysis of BT-R ₁ , the <i>Manduca sexta</i> gene encoding the receptor for the Cry1Ab toxin of <i>Bacillus thuringiensis</i> ," <i>Mol Gen Genet</i> , 1997, pp. 517-524, Vol. 256
12	GAHAN, J.L., et al., "Identification of a Gene Associated with Bt Resistance in <i>Heliothis virescens</i> ," <i>Science</i> , August 3, 2001, pp. 857-860, Vol. 293
13	GARCZYNSKI, S.F., et al., "Identification of Putative Insect Brush Border Membrane-Binding Molecules Specific to <i>Bacillus thuringiensis</i> δ -Endotoxin by Protein Blot Analysis," <i>Applied and Environmental Microbiology</i> , October 1991, pp. 2816-2820, Vol. 57, No. 10
14	GILL, S.S., et al., "Identification, Isolation, and Cloning of a <i>Bacillus thuringiensis</i> CryIAC Toxin-binding Protein from the Midgut of the Lepidopteran Insect <i>Heliothis virescens</i> ," <i>The Journal of Biological Chemistry</i> , November 10, 1995, pp. 27277-27282, Vol. 270, No. 45
15	HOFTE, H. and WHITELEY, H.R., "Insecticidal Crystal Proteins of <i>Bacillus thuringiensis</i> ," <i>Microbiological Reviews</i> , June 1989, pp. 242-255, Vol. 53, No. 3
16	HUA, G., et al., "Binding Analyses of <i>Bacillus thuringiensis</i> Cry δ -Endotoxins Using Brush Border Membrane Vesicles of <i>Ostrinia nubilalis</i> ," <i>Applied and Environmental Microbiology</i> , February 2001, pp. 872-879, Vol. 67, No. 2
17	IHARA, H., et al., "Purification and partial amino acid sequences of the binding protein from <i>bombyx mori</i> for CryIAa δ -endotoxin of <i>Bacillus thuringiensis</i> ," <i>Comparative Biochemistry and Physiology</i> , Part B, 1998, pp. 197-204, Vol. 120
18	JURAT-FUENTES, J.L., et al., "Altered Glycosylation of 63-68-Kilodalton Microvillar Proteins in <i>Heliothis virescens</i> Correlates with Reduced Cry1 Toxin Binding, Decreased Pore Formulation, and Increased Resistance to <i>Bacillus thuringiensis</i> Cry1 Toxins," <i>Applied and Environmental Microbiology</i> , November 2002, pp. 5711-5717, Vol. 68, No. 11
19	KEETON, T.P., and BULLA, L.A., Jr., "Ligand Specificity and Affinity of BT-R ₁ , the <i>Bacillus thuringiensis</i> Cry1A Toxin Receptor from <i>Manduca sexta</i> , Expressed in Mammalian and Insect Cell Cultures," <i>Applied and Environmental Microbiology</i> , September 1997, pp. 3419-3425, Vol. 63, No. 9
20	KEETON, T.P., et al., "Effects of Midgut-Protein-Preparative and Ligand Binding Procedures on the Toxin Binding Characteristics of BT-R ₁ , a Common High-Affinity Receptor in <i>Manduca sexta</i> for Cry1A <i>Bacillus thuringiensis</i> Toxins," <i>Applied and Environmental Microbiology</i> , June 1998, pp. 2158-2165, Vol. 64, No. 6
21	KNIGHT, P.J.K., et al., "The receptor for <i>Bacillus thuringiensis</i> CryIA(c) delta-endotoxin in the brush border membrane of the lepidopteran <i>Manduca sexta</i> is aminopeptidase N," <i>Molecular Microbiology</i> , 1994, pp. 429-436, Vol. 11, No. 3

Examiner Signature		Date Considered	
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*Examiner: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Substitute for form 1449/PTO (Revised 04/2003) INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use as many sheets as necessary)				Complete if Known	
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Examiner Name	Not Assigned				
Sheet	1	of	3	Attorney Docket Number	035718/274644(5718-201)

U. S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.	Document Number Number - Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages of Relevant Figures Appear
	1	US-5,693,491	12-02-1997	Bulla et al.	
	2	US-5,804,393	09-08-1998	Geiser et al.	
	3	US-6,007,981	12-28-1999	Bulla	

FOREIGN PATENT DOCUMENTS						
Examiner Initials	Cite No.	Foreign Patent Document Country Code Number Kind Code (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	English Language Translation Attached
	4	WO 96/12964 A1	02-05-1996	University of Wyoming		
	5	WO 98/59048 A1	12-30-1998	University of Wyoming		
	6	WO 01/34807 A2	05-17-2001	Bulla, L.A., Jr., et al.		

OTHER DOCUMENTS			
Examiner Initials	Cite No.	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s) , volume-issue number(s), publisher, city and/or country where published.	English Language Translation Attached
	7	DORSCH, J.A., "Isolation and Characterization of the Insecticidal Toxin Binding Site From the Receptor BT-r ₁ of <i>Manduca sexta</i> ," May 1998, A dissertation submitted to the Department of Molecular Biology and the Graduate School of the University of Wyoming, Laramie, Wyoming	
	8	DORSCH, J.A., et al., "CRY1A Toxins of <i>Bacillus thuringiensis</i> bind specifically to a region adjacent to the membrane-proximal extracellular domain of BT-R ₁ in <i>Manduca sexta</i> : involvement of a cadherin in the entomopathogenicity of <i>Bacillus thuringiensis</i> ," <i>Insect Biochemistry and Molecular Biology</i> , 2002, pp. 1025-1036, Vol. 32.	
	9	ESTRUCH, J.J., et al., "Transgenic plants: An emerging approach to pest control," <i>Nature Biotechnology</i> , February 1997, pp. 137-141, Vol. 15	
	10	FRANCIS, B.R., and BULLA, L.A., Jr., "Further Characterization of BT-R ₁ , the Cadherin-like Receptor for Cry1Ab Toxin in Tobacco Hornworm (<i>Manduca Sexta</i>) Midguts," <i>Insect Biochem. Molec. Biol.</i> , 1997, pp. 541-550, Vol. 27, No. 6	

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				First Named Inventor	Mathis
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				Examiner Name	Not Assigned
Sheet	3	of	3	Attorney Docket Number	035718/274644(5718-201)

22	LEE, M.K. et al., "Aminopeptidase N Purified from Gypsy Moth Brush Border Membrane Vesicles is a Specific Receptor for <i>Bacillus thuringiensis</i> CryIAc Toxin," <i>Applied and Environmental Microbiology</i> , August 1996, pp. 2845-2849, Vol. 62, No. 8
23	MAATY, W.S.A., "Identification, Purification and Cloning of a High-Affinity Invertebrate Protocadherin Receptor BT-R ₂ from the Pink Bollworm (<i>Pectinophora Gossypiella</i>) for <i>Bacillus Thuringiensis</i> CRY1A Toxins," Dissertation submitted to the Dept. of Molecular Biology and The Graduate School of the University of Wyoming, July 1999, pp. 1-146
24	McGAUGHEY, W.H., et al., "Bt resistance management--A plan for reconciling the needs of the many stakeholders in Bt-based products," <i>Nature Biotechnology</i> , February 1998, pp. 144-146, Vol. 16
25	MIDBOE, E.G., "Characterization of the BT-R ₁ Gene and Its Expression in <i>Manduca sexta</i> ," Dissertation submitted to the Dept. of Molecular Biology and The Graduate School of the University of Wyoming, July 1999, pp. 1-135
26	NAGAMATSU, Y., et al., "Cloning, Sequencing, and Expression of the <i>Bombyx mori</i> Receptor for <i>Bacillus thuringiensis</i> Insecticidal CryIA(a) Toxin," <i>Biosci. Biotechnol. Biochem.</i> , 1998, pp. 727-734, Vol. 62, No. 4
27	NAGAMATSU, Y., et al., "The cadherin-like protein is essential to specificity determination and cytotoxin action of the <i>Bacillus thuringiensis</i> insecticidal CryIAa toxin," <i>FEBS Letters</i> , 1999, pp. 385-390, Vol. 460
28	ODDOU, P., et al., "Immunologically unrelated <i>heliothis</i> sp. And <i>Spodoptera</i> sp. Midgut membrane-proteins bind <i>Bacillus thuringiensis</i> CryIA(b) δ -endotoxin," <i>Eur. J. Biochem.</i> , 1993, pp. 145-150, Vol. 212
29	ROUSH, R.T., and SHELTON, A.M., "Assessing the odds: The emergency of resistance to Bt transgenic plants," <i>Nature Biotechnology</i> , September 1997, pp. 816-817, Vol. 15
30	RUDINGER, J., "Characteristics of the amino acids as components of a peptide hormone sequence," <i>Peptide Hormones</i> , June 1976, pp. 1-7, J. A. Parsons, Editor; University Park Press, Baltimore
31	SKOLNICK, J. and FETROW, J.S., "From genes to protein structure and function: novel applications of computational approaches in the genomic era," <i>Trends in Biotechnology</i> , 2000, pp. 34-39, Vol. 18, No. 1
32	VADLAMUDI, R.K., et al., "A Specific Binding Protein from <i>manduca sexta</i> for the Insecticidal Toxin of <i>Bacillus thuringiensis</i> subsp. berliner," <i>J. Biol. Chem.</i> , June 15, 1993, pp. 12334-12340, Vol. 268, No. 17
33	VADLAMUDI, R.K. et al., "Cloning and Expression of a Receptor for an Insecticidal Toxin of <i>Bacillus thuringiensis</i> ," <i>J. Biol. Chem.</i> , March 10, 1995, pp. 5499-5494, Vol. 270, No. 10

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